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FILE 'CAPLUS' ENTERED AT 19:26:53 ON 07 JAN 2011
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                                                         ENTRY    SESSION
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=> s hironao s?/AU
L15          1 HIRONAO S?/AU

=> d l15 ibib

L15  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:        2009:888222  CAPLUS
DOCUMENT NUMBER:         151:252944
TITLE:                   Dechlorination method of polychlorinated biphenyls at
                         room temperature under atmosphere pressure
INVENTOR(S):             Hironao, Sajiki
PATENT ASSIGNEE(S):      Wijin Bionics Co., Ltd., S. Korea; Nagara Bionics Co.,
                         Ltd.
SOURCE:                  Repub. Korean Kongkae Taeho Kongbo, 10pp.
                         CODEN: KRXXA7
DOCUMENT TYPE:           Patent
LANGUAGE:                Korean
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
     KR 2009078377        A     20090720    KR 2008-4174           20080115
PRIORITY APPLN. INFO.:                      KR 2008-4174           20080115


=> d his

     (FILE 'HOME' ENTERED AT 17:03:58 ON 07 JAN 2011)

     FILE 'REGISTRY' ENTERED AT 17:04:15 ON 07 JAN 2011
L1             STRUCTURE UPLOADED
L2          50 S L1 SAM
L3             STRUCTURE UPLOADED
L4           2 S L3 SAM
L5          55 S L3 FULL
               E (PALLADIUM AND CARBON)/CN
               E (PALLADIUM AND CHARCOAL)/CN
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                E (PALLADIUM  CHARCOAL)/CN

     FILE 'CAPLUS' ENTERED AT 17:22:30 ON 07 JAN 2011
                E US20060116535/PN
L6             1 S E3
                SEL RN
L7        995744 S E1-E49

     FILE 'REGISTRY' ENTERED AT 17:22:56 ON 07 JAN 2011
L8            49 S E1-E49

     FILE 'CAPLUS' ENTERED AT 17:23:05 ON 07 JAN 2011
L9             1 S L6 AND L8

     FILE 'REGISTRY' ENTERED AT 17:23:47 ON 07 JAN 2011
                E 21273-02-9/RN
L10            1 S E3

     FILE 'CAPLUS' ENTERED AT 17:26:14 ON 07 JAN 2011
L11           34 S L10

     FILE 'CAPLUS' ENTERED AT 18:36:29 ON 07 JAN 2011
L12          148 S L5

     FILE 'REGISTRY' ENTERED AT 18:38:34 ON 07 JAN 2011
                E 42913-50-8/RN
L13            1 S E3

     FILE 'CAPLUS' ENTERED AT 18:38:42 ON 07 JAN 2011
L14            1 S L13
L15            1 S HIRONAO S?/AU

=> d l6 ibib gi abs

L6   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:         2004:589514  CAPLUS
DOCUMENT NUMBER:          141:139883
TITLE:                    Method of catalytic deuteration of carbonyl compounds
                          or secondary alcohols by heavy water
INVENTOR(S):              Ito, Nobuhiro; Maesawa, Tsuneaki; Muto, Kazushige;
                          Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S):       Wako Pure Chemical Industries, Ltd., Japan
SOURCE:                   PCT Int. Appl., 42 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     WO 2004060831         A1    20040722    WO 2003-JP14182         20031107
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
             TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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     CA 2511885           A1    20040722    CA 2003-2511885        20031107
     AU 2003277596        A1    20040729    AU 2003-277596         20031107
     EP 1577280           A1    20050921    EP 2003-814536         20031107
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     CN 1732135           A     20060208    CN 2003-80107483       20031107
     CN 100384792         C     20080430
     JP 4396522           B2    20100113    JP 2004-564469         20031107
     US 20060116535       A1    20060601    US 2005-539188         20050616 <--
     IN 2005KN01449       A     20070720    IN 2005-KN1449         20050726
PRIORITY APPLN. INFO.:                       JP 2002-378932      A  20021227
                                             WO 2003-JP14182     W  20031107
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 141:139883; MARPAT 141:139883
AB   Described is a method of deuterating a carbonyl or secondary alc. compound
     represented by the general formula R1-X-R2 (I) (wherein R1 = alkyl
     optionally possessing a CH:CH or C.tplbond.C bond, aralkyl ; R2 = alkyl
     optionally possessing a CH:CH or C.tplbond.C bond, aryl, aralkyl, alkoxy,
     aryloxy, hydroxy; X carbonyl, hydroxymethylene), which comprises reacting
     the compound represented by the general formula I with a deuterium source,
     in particular D2O, in the presence of a catalyst selected among activated
     palladium, platinum, rhodium, ruthenium, nickel, and cobalt catalysts.  By
     the method, deuteration, which has been conducted under severe conditions,
     can be conducted under neutral conditions.  Even when the compound contains
     an unsatd. bond, it can be deuterated without reducing the unsatd. bond.
     Not only hydrogens near the carbonyl or hydroxymethylene group but also
     those remotely situated from these groups are selectively deuterated
     without deuterating the carbon-carbon double or triple bonds.  Thus, 500
     mg tricyclo[5.2.1.02'6]decan-8-ol and 100 mg Pd-C were suspended in 17 mL
     D2O, purged with H, and heated at 180° for 24 h in an oil bath to
     give tricyclo[5.2.1.02'6]decan-8-ol deuterated by 96% at 8-position and
     88% at other positions.
OS.CITING REF COUNT:     4     THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD
                               (11 CITINGS)
REFERENCE COUNT:         5     THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> s sajiki h?/AU
L16        233 SAJIKI H?/AU

=> s l16 and (deuterium or deuterat?)
         98597 DEUTERIUM
           164 DEUTERIUMS
         98668 DEUTERIUM
                 (DEUTERIUM OR DEUTERIUMS)
         42679 DEUTERAT?
L17         44 L16 AND (DEUTERIUM OR DEUTERAT?)

=> d l17 ibib gi abs 1-44

L17  ANSWER 1 OF 44  CAPLUS  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:        2010:813465  CAPLUS
DOCUMENT NUMBER:         153:311405
TITLE:                   Method for regio-, chemo- and stereoselective
                         deuterium labeling of sugars based on
                         ruthenium-catalyzed C-H bond activation
AUTHOR(S):               Fujiwara, Yuta; Iwata, Hiroki; Sawama, Yoshinari;
                         Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE:        Laboratory of Organic Chemistry, Gifu Pharmaceutical
                         University, Gifu, 501-1196, Japan
SOURCE:                  Chemical Communications (Cambridge, United Kingdom)
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(2010), 46(27), 4977-4979
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 153:311405
AB An efficient and facile deuterium labeling of sugars has been achieved in a completely regio-, chemo- and stereoselective manner using the Ru/C-H2-D2O combination via C-H bond activation assisted by the coordination of Ru to the oxygen atom of the sugar-hydroxyl groups.
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:1430449 CAPLUS
DOCUMENT NUMBER: 151:550813
TITLE: Deuteration of heterocyclic compounds in deuterated solvents using radical reducing agents
INVENTOR(S): Sajiki, Hironao; Mutsumi, Tomonobu
PATENT ASSIGNEE(S): Taiho Pharamceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009269853	A	20091119	JP 2008-121378	20080507
PRIORITY APPLN. INFO.:			JP 2008-121378	20080507

AB Heterocyclic compds. are reacted with radical reducing agents in deuterated solvents to substitute radical reaction-active functional group of the compds. with deuterium. Thus, 2',3',5'-tri-O-benzoylcytidine was dissolved in THF-d8 and treated with azobis(dimethylvaleronitrile) and Bu3SnH under reflux for 1.5 h to give 42% (5-2H)-2',3',5'-tri-O-benzoylcytidine with degree of deuteration 96%.

L17 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:1406736 CAPLUS
DOCUMENT NUMBER: 152:214994
TITLE: Synthesis of deuterated benzyladenine and its application as a surrogate
AUTHOR(S): Modutlwa, Nkaelang; Tada, Hiroyuki; Sugahara, Yoshiki; Shiraki, Koichi; Hara, Nobuyuki; Deyashiki, Yoshihiro; Ando, Takayuki; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Organic Chemistry, Department of Organic and Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Nucleic Acids Symposium Series (2009), 53(1), 105-106
CODEN: NASSCJ; ISSN: 1746-8272
URL: http://nass.oxfordjournals.org/cgi/content/abstract/53/1/105
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
OTHER SOURCE(S): CASREACT 152:214994
AB A symposium. Palladium on carbon-ethylenediamine complex [Pd/C(en)] catalyzed deuteration of N6-benzyladenine-d5, which is a plant

growth regulator, to introduce 5 deuterium atoms, while use of Pd/C as a catalyst led to a complete removal of N6-benzyl group. The corresponding deuterated N6-benzyladenine was successfully used as a surrogate compound for the quant. anal. of residual benzyladenine in crops using LC/MS/MS.
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 4 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:1406685 CAPLUS
DOCUMENT NUMBER: 152:239212
TITLE: Alternative I-D exchange reaction on pyrimidine and purine nuclei mediated by tributyltin hydride using THF-d8 as a deuterium source
AUTHOR(S): Mutsumi, Tomonobu; Maruhashi, Kazuo; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Chemical Technology Laboratory, Taiho Pharmaceutical Co., Ltd., 200-22 Motohara, Kamikawa-machi, Kodama-gun, Saitama, 367-0241, Japan
SOURCE: Nucleic Acids Symposium Series (2009), 53(1), 3-4
CODEN: NASSCJ; ISSN: 1746-8272
URL: http://nass.oxfordjournals.org/cgi/content/abstract/53/1/3
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
OTHER SOURCE(S): CASREACT 152:239212
AB A novel method for the regioselective deuteration of pyrimidine and purine rings mediated by Bu3SnH using THF-d8 as a deuterium source on the basis of a radical reaction was developed.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 5 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:1132449 CAPLUS
DOCUMENT NUMBER: 151:528386
TITLE: Bimetallic palladium-platinum-on-carbon-catalyzed H-D exchange reaction: synergistic effect on multiple deuterium incorporation
AUTHOR(S): Maegawa, Tomohiro; Ito, Nobuhiro; Oono, Keiji; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Organic Chemistry, Department of Organic and Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Synthesis (2009), (16), 2674-2678
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 151:528386
AB Several activated carbon-supported bimetallic Pd-Pt catalysts (Pd-Pt/C) were prepared using various reducing reagents, and their catalytic activities were examined for the deuteration of alkyl-substituted aromatic compds. Multiple deuterations catalyzed by Pt-Pd/C proceeded in D2O at 180° under a H2 atmosphere, and a synergistic effect was observed in relation to the incorporation of deuterium at sterically hindered positions on aromatic rings.
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 6 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:985184 CAPLUS

TITLE: Multiple/regioselective H-D exchange reaction of aliphatic alkanes and alcohols
AUTHOR(S): Fujiwara, Yuta; Esaki, Hiroyoshi; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Department of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, N/A, Japan
SOURCE: Abstracts of Papers, 238th ACS National Meeting, Washington, DC, United States, August 16-20, 2009 (2009), ORGN-309. American Chemical Society: Washington, D. C.
CODEN: 69LVCL
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)

AB While a H-D exchange reaction, which is a basic research subject related to the C-H activation, is a powerful tool to prepare deuterium labeled compds., conventional H-D exchange reactions require harsh reaction conditions such as high temperature, high pressure, basic or acidic conditions. Therefore, it is desirable to develop an efficient and facile H-D exchange reaction under mild reaction conditions. We have recently developed the methods, which satisfies such demands, for the Pd/C-catalyzed deuteration of aromatic compds., ketones and alcs. During the course of the investigation, we found that Rh/C is an efficient catalyst for the C-H bond activation-based multiple H-D exchange reactions of non-activated alkanes at 160 °C under an H2 atmospheric In this meeting, we will present the detail of the deuteration together with a highly regioselective H-D exchange reaction at the α-position of primary and secondary aliphatic alcs. using a Ru/C-H2-D2O combination.

L17 ANSWER 7 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:20226 CAPLUS
DOCUMENT NUMBER: 150:120983
TITLE: Method of deuteration using ruthenium catalyst
INVENTOR(S): Sajiki, Hironao; Maegawa, Tomohiro; Monguchi, Yasunari; Fujiwara, Yuta; Inagaki, Yuya
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 37pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009005069	A1	20090108	WO 2008-JP61924	20080701
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: JP 2007-177565 A 20070705
OTHER SOURCE(S): CASREACT 150:120983; MARPAT 150:120983

AB The title method of deuteration is characterized in that a compound having a hydroxyl group, an optionally substituted amino, an ether bond and/or NH moiety is reacted with a deuterium source in the

presence of a ruthenium catalyst and hydrogen gas. Thus, a mixture of 1-decanol and Ru/C (catalyst) in D2O under hydrogen was stirred for 24 h at 80°C to give HO-(CD2)-(CH2)8-Me with 96% deuteration rate.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 8 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:1496215 CAPLUS
DOCUMENT NUMBER: 150:191780
TITLE: Alternative I-D exchange reaction on pyrimidine and purine nuclei mediated by tributyltin hydride using THF-d8 as a deuterium source
AUTHOR(S): Mutsumi, Tomonobu; Maruhashi, Kazuo; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Chemical Technology Laboratory, Taiho Pharmaceutical Co., Ltd., 200-22 Kodama-Gun, Saitama, 367-0241, Japan
SOURCE: Synlett (2008), (18), 2811-2814
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 150:191780
AB A method for the regioselective deuteration of pyrimidine and purine rings mediated by Bu3SnH using THF-d8 as a deuterium source on the basis of a radical reaction was developed.
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 9 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:1370124 CAPLUS
DOCUMENT NUMBER: 151:77396
TITLE: A convenient and effective method for the regioselective deuteration of alcohols
AUTHOR(S): Maegawa, Tomohiro; Fujiwara, Yuta; Inagaki, Yuya; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi, Gifu, 502-8585, Japan
SOURCE: Advanced Synthesis & Catalysis (2008), 350(14+15), 2215-2218
CODEN: ASCAF7; ISSN: 1615-4150
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 151:77396
AB The convenient and regioselective deuteration of hydroxy groups on vicinal carbons was achieved by the combination of 5% ruthenium on carbon (Ru/C), hydrogen gas and deuterium oxide (D2O).
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 10 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:895395 CAPLUS
DOCUMENT NUMBER: 149:378054
TITLE: Mild and efficient H/D exchange of alkanes based on C-H activation catalyzed by rhodium on charcoal
AUTHOR(S): Maegawa, Tomohiro; Fujiwara, Yuta; Inagaki, Yuya; Esaki, Hiroyoshi; Monguchi, Yasunari; Sajiki,

Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, 5-6-1 Mitahora-higashi Gifu, 502-8585, Japan
SOURCE: Angewandte Chemie, International Edition (2008), 47(29), 5394-5397
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 149:378054
AB In the presence of Rh/C in D2O under H2 at 160°C the H/D exchange reaction of unfunctionalized alkanes can easily occur. Inexpensive reagents and mild reaction conditions are used; and fully deuterated products can be obtained after a simple work up procedure.
OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 11 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:672874 CAPLUS
DOCUMENT NUMBER: 149:9648
TITLE: Method for deuterating alkanes
INVENTOR(S): Sajiki, Hironao; Maegawa, Tomohiro; Monguchi, Yasunari
PATENT ASSIGNEE(S): Nagoya Industrial Science Research Institute, Japan
SOURCE: PCT Int. Appl., 17pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008066158	A1	20080605	WO 2007-JP73184	20071130

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2006-325568 A 20061201
AB Disclosed is a method for deuterating an alkane wherein deuteration effectively proceeds under relatively mild conditions (at low temperature/low pressure). Specifically disclosed is a method for deuterating an alkane wherein an alkane and a heterogeneous platinum group catalyst are added into deuterium oxide and/or a deuterated solvent, and then the thus-obtained suspension is heated in a closed system in a hydrogen gas and/or hydrogen isotope gas atmospheric For example, 2-methylundecane was treated with 5% Rh/C in D2O under H2 atmosphere to give ≥97% deuterated 2-methylundecane.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 12 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:601246 CAPLUS
DOCUMENT NUMBER: 149:175993
TITLE: H-D exchange reaction taking advantage of the synergistic effect of heterogeneous palladium and platinum mixed catalyst
AUTHOR(S): Ito, Nobuhiro; Watahiki, Tsutomu; Maesawa, Tsuneaki; Maegawa, Tomohiro; Sajiki, Hironao
CORPORATE SOURCE: Chemical Products Research Laboratories, Wako Pure Chemical Industries, Ltd., 1633 Matoba, Kawagoe, 350-1101, Japan
SOURCE: Synthesis (2008), (9), 1467-1478
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 149:175993
AB An effective deuteration method for alkyl-substituted aromatic compds. using a heterogeneous Pd/C and Pt/C mixed catalyst in deuterium oxide in the presence of a small amount of hydrogen gas was developed. Mixing a heterogeneous palladium and platinum catalyst provides an interesting synergistic effect in the H-D exchange reaction and leads to full H-D exchange results even on sterically hindered sites, which indicated only low-deuterium efficiencies when either Pd/C or Pt/C were used independently as a catalyst. The synergistic effect was investigated using a variety of substrates and proved the broad generality of the heterogeneous Pd-Pt-D2O-H2 system in the H-D exchange reaction. Furthermore, this system could be applied to a multigram scale synthesis of useful deuterium-labeled compds., such as deuterium -labeled bis-aniline derivs. as raw materials for polyimides, aryl iodides as synthetic building blocks, and biol. active compds.
OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)
REFERENCE COUNT: 88 THERE ARE 88 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 13 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2008:518922 CAPLUS
DOCUMENT NUMBER: 149:79288
TITLE: Facile and convenient method of deuterium gas generation using a Pd/C-catalyzed H2-D2 exchange reaction and its application to synthesis of deuterium-labeled compounds
AUTHOR(S): Kurita, Takanori; Aoki, Fumiyo; Mizumoto, Takuto; Maejima, Toshihide; Esaki, Hiroyoshi; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi 5-6-1, Gifu, 502-8585, Japan
SOURCE: Chemistry--A European Journal (2008), 14(11), 3371-3379
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 149:79288
AB The Pd/C-catalyzed H2-D2 exchange reaction using a H2-D2O combination provided a general, efficient and environmentally friendly route for the preparation of deuterium gas (D2). H2 sealed in a reaction flask was converted into nearly pure D2, which could be used for the Pd/C-catalyzed

one-pot reductive deuteration of various reducible functionalities and the chemoselective one-pot deuteration of olefin and acetylene. Addnl., a method was established for capturing the generated D2 in a balloon, which was successfully applied to the Pd/C-catalyzed reductive mono-N-alkylation of a primary amine using nitrile as the alkylating reagent.

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2008:496264 CAPLUS

DOCUMENT NUMBER: 148:517142

TITLE: Efficient and convenient heterogeneous palladium-catalyzed regioselective deuteration at the benzylic position

AUTHOR(S): Kurita, Takanori; Hattori, Kazuyuki; Seki, Saori; Mizumoto, Takuto; Aoki, Fumiyo; Yamada, Yuki; Ikawa, Kanoko; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao

CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi 5-6-1 Gifu, 502-8585, Japan

SOURCE: Chemistry--A European Journal (2008), 14(2), 664-673
CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 148:517142

AB The Pd/C-catalyzed efficient and regioselective hydrogen-deuterium (H-D) exchange reaction on the benzylic site proceeded in D2O in the presence of a small amount of H2 gas. The use of the Pd/C-ethylenediamine complex [Pd/C(en)] as a catalyst instead of Pd/C led to the efficient deuterium incorporation into the benzylic site of O-benzyl protective groups without hydrogenolysis. These H-D exchange reactions provide a post synthetic and D2-gas-free deuterium-labeling method on a wide variety of benzylic sites using D2O as the deuterium source and heterogeneous Pd/C or Pd/C(en) as a reusable heterogeneous palladium catalyst under mild and neutral conditions.

OS.CITING REF COUNT: 15 THERE ARE 15 CAPLUS RECORDS THAT CITE THIS RECORD (15 CITINGS)

REFERENCE COUNT: 118 THERE ARE 118 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2008:354069 CAPLUS

DOCUMENT NUMBER: 148:495347

TITLE: Efficient and selective Pt/C-catalyzed H-D exchange reaction of aromatic rings

AUTHOR(S): Ito, Nobuhiro; Esaki, Hiroyoshi; Maesawa, Tsuneaki; Imamiya, Eikoh; Maegawa, Tomohiro; Sajiki, Hironao

CORPORATE SOURCE: Chemical Products Research Laboratories, Wako Pure Chemical Industries, Ltd., Matoba, Kawagoe, 350-1101, Japan

SOURCE: Bulletin of the Chemical Society of Japan (2008), 81(2), 278-286
CODEN: BCSJA8; ISSN: 0009-2673

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 148:495347
AB An effective and applicable deuteration method for aromatic rings using Pt/C-D2O-H2 system was established. Especially, phenol was fully deuterated even at room temperature, and other electron-rich aromatic nuclei were efficiently deuterated under mild conditions. The scope and limitations of the presence method and its application to the synthesis of deuterium-labeled biol. active compds. and deuterium-labeled building blocks for practical multi-gram scale syntheses are reported.
OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:1447986 CAPLUS
DOCUMENT NUMBER: 149:378301
TITLE: An efficient deuteration method catalyzed by heterogeneous platinum group metals
AUTHOR(S): Esaki, Hiroyoshi; Kurita, Takanori; Fujiwara, Yuta; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Lab. of Medicinal Chemistry, Gifu Pharmaceutical Univ., 5-6-1 Mitahora-higashi, Gifu, 502-8585, Japan
SOURCE: Yuki Gosei Kagaku Kyokaishi (2007), 65(12), 1179-1190
CODEN: YGKKAE; ISSN: 0037-9980
PUBLISHER: Yuki Gosei Kagaku Kyokai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review. The development of effective and versatile deuterium labeling methods has been a topic of sustained interest in a variety of fields such as organic, anal., pharmaceutical, agrochem., material, and environmental chemical Many precedent deuterium labeling methods usually require high temperature and pressure, strong bases or acids, special apparatus, and/or deuterium atmospheric The authors report here that they have developed an effective benzylic site-selective H-D exchange reaction using Pd/C as a catalyst in deuterium oxide under hydrogen atmospheric at room temperature The application of heat to the Pd/C-H2-D2O system accelerated the H-D exchange and led to the effective deuterium incorporation even on the non-benzylic positions. The use of Pt/C in place of Pd/C made an effective deuteration on the benzene ring possible. In addition, aliphatic compds. were deuterated efficiently by using Rh/C instead of Pd/C. The Pd/C(Pt/C, Rh/C)-H2-D2O system was applicable to the deuteration of bioactive mols. such as amino acids, nucleic acids, pharmaceuticals and agrochem. compds. The features of the present method using Pd/C(Pt/C, Rh/C)-H2-D2O system are reliability, simplicity, and efficiency.

L17 ANSWER 17 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:998499 CAPLUS
DOCUMENT NUMBER: 147:344303
TITLE: Process for deuteration of benzyl position in O-benzyl groups
INVENTOR(S): Sajiki, Hironao; Maegawa, Tomohiro; Kurita, Takanori
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 28pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007100080	A1	20070907	WO 2007-JP54010	20070302
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1992605	A1	20081119	EP 2007-737658	20070302
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR				
US 20090036659	A1	20090205	US 2008-281576	20080903
PRIORITY APPLN. INFO.:			JP 2006-58201 A	20060303
			WO 2007-JP54010 W	20070302

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 147:344303
AB This invention pertains to a method for deuteration of benzyl position in O-benzyl groups with a deuterium source in the presence of a palladium-carbon ethylenediamine complex and hydrogen. For example, benzyl protecting group in various saccharides were deuterated in high yields by this method.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:581168 CAPLUS
DOCUMENT NUMBER: 147:95200
TITLE: Efficient H/D exchange reactions of alkyl-substituted benzene derivatives by means of the Pd/C-H2-D2O system
AUTHOR(S): Esaki, Hiroyoshi; Aoki, Fumiyo; Umemura, Miho; Kato, Masatsugu; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi 5-6-1 Gifu, 502-8585, Japan
SOURCE: Chemistry--A European Journal (2007), 13(14), 4052-4063
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 147:95200
AB A method for efficient and extensive H/D exchange of substituted benzene derivs. which is catalyzed by heterogeneous Pd/C in D2O as a deuterium source under hydrogen atmospheric is described. Multideuterium incorporation into unactivated linear or branched alkyl chains that bear a carboxyl, hydroxyl, ether, ester, or amide moiety and are connected with a benzene ring was achieved by using the Pd/C-H2-D2O system. The present method does not require expensive deuterium gas or any special equipment.
OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)
REFERENCE COUNT: 155 THERE ARE 155 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L17 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:296849 CAPLUS
TITLE: Novel redox reactions between sec-alcohols and ketones using Pd/C-H2O-D2O
AUTHOR(S): Esaki, Hiroyoshi; Ohtaki, Rumi; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Department of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Abstracts of Papers, 233rd ACS National Meeting, Chicago, IL, United States, March 25-29, 2007 (2007), ORGN-825. American Chemical Society: Washington, D. C.
CODEN: 69JAUY
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)
LANGUAGE: English
AB Oxidation of sec-alcs. and reduction of ketones are both important chemical transportations. We have recently reported that the efficient Pd/C-catalyzed H-D exchange of aromatic derivs. readily proceeded in D2O under hydrogen atmospheric During the course of our further study to explore the scope of the H-D exchange reaction, we have found the use of either non-aromatic sec-alcs. or ketones leads to a formation of a mixture of deuterium-labeled sec-alcs. and ketones. The result indicated that ketones formed from sec-alcs. without oxidants under the hydrogenation conditions and the hydrogenation of aliphatic ketones to the corresponding sec-alcs. simultaneously proceeded. We present the novel redox system between sec-alcs. and ketones using Pd/C-H2-D2O in association with the deuterium-efficiency.

L17 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:199776 CAPLUS
DOCUMENT NUMBER: 146:421550
TITLE: Mechanistic study of a Pd/C-catalyzed reduction of aryl sulfonates using the Mg-MeOH-NH4OAc system
AUTHOR(S): Mori, Akinori; Mizusaki, Tomoteru; Ikawa, Takashi; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi 5-6-1, Gifu, 8585, Japan
SOURCE: Chemistry--A European Journal (2007), 13(5), 1432-1441
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:421550
AB A method for the deoxygenation of phenolic hydroxy groups via aryl triflates or mesylates has been established by using a combination of Pd/C-Mg-MeOH. The addition of NH4OAc to the system markedly accelerated the reaction rate and expanded the scope of the reaction. Mechanistic studies suggested that a single-electron transfer process from the Pd0 center to the benzene ring is involved in the reduction of aryl sulfonates and that NH4OAc works as a solubilization reagent of the Mg salt and as an accelerator of the electron transfer, thus enhancing the reaction process. Our method was also applicable to the regioselective deuteration of benzene derivs. with CH3OD as the solvent and deuterium source: the original hydroxy group could be efficiently replaced with a deuterium atom.
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:192322 CAPLUS
DOCUMENT NUMBER: 146:421549
TITLE: Novel Pd/C-Catalyzed Redox Reactions between Aliphatic Secondary Alcohols and Ketones under Hydrogenation Conditions: Application to H-D Exchange Reaction and the Mechanistic Study
AUTHOR(S): Esaki, Hiroyoshi; Ohtaki, Rumi; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Journal of Organic Chemistry (2007), 72(6), 2143-2150
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:421549
AB A liquid-phase redox system between secondary alcs. and ketones is described. Deuteration of either secondary alcs. or ketones using the Pd/C-H2-D2O system gave a mixture of deuterium-labeled secondary alcs. and ketones. The results indicated that the secondary alc. was oxidized to the corresponding ketone without oxidants under the hydrogenation conditions and the hydrogenation of the aliphatic ketone to the corresponding secondary alc. simultaneously proceeded. Detailed mechanistic studies on the redox system as well as the H-D exchange reaction are discussed.
OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)
REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:1087188 CAPLUS
DOCUMENT NUMBER: 146:81743
TITLE: General method of obtaining deuterium -labeled heterocyclic compounds using neutral D2O with heterogeneous Pd/C
AUTHOR(S): Esaki, Hiroyoshi; Ito, Nobuhiro; Sakai, Shino; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, 5-6-1 Mitahora-higashi, Gifu, 502-8585, Japan
SOURCE: Tetrahedron (2006), 62(47), 10954-10961
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:81743
AB A protocol of a versatile H-D exchange reaction of heterocyclic compds. catalyzed by heterogeneous Pd/C in D2O is described. The reaction of various nitrogen-containing heterocycles with 10% Pd/C (10 wt% of the substrate) under hydrogen atmospheric in D2O as a deuterium source at 110-180°C for 24 h afforded the deuterated compds. with satisfactory efficiency of deuteration in moderate to excellent isolated yields. Furthermore, the Pd/C-H2-D2O system can be extended to the direct deuteration of biol. active compds. such as sulfamethazine, which is used as a synthetic antibacterial drug for fat stocks and would be applied as a general method for the preparation of the standard

materials for the anal. of residual chems. in foods and so on.
OS.CITING REF COUNT: 25 THERE ARE 25 CAPLUS RECORDS THAT CITE THIS RECORD (25 CITINGS)
REFERENCE COUNT: 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:862829 CAPLUS
TITLE: Pd/C(en)-catalyzed benzylic site selective H-D exchange reaction of O-benzyl protective group
AUTHOR(S): Kurita, Takanori; Maegawa, Tomohiro; Monguchi, Yasunari; Sajiki, Hironao
CORPORATE SOURCE: Department of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Abstracts of Papers, 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006 (2006) , ORGN-689. American Chemical Society: Washington, D. C.
CODEN: 69IHRD
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)
LANGUAGE: English
AB O-Benzyl group is one of the most common hydroxyl protective groups and deprotected easily by the catalytic hydrogenation using Pd/C. Deuterium labeled compds. at the benzylic position of O-benzyl groups are widely applicable. In particular, simplification of a 1H NMR chart is valuable in the field of sugar chemical However, benzyl bromide or chloride-α,α-d2 as a synthon of deuterium-labeled O-benzyl ethers is quite expensive. We recently have published regioselective H-D exchange reaction on a benzylic carbon using Pd/C-D2O-H2 system while it is not applicable to substrates bearing reducible functionalities such as O-benzyl groups and so on. By the way, we also reported the chemoselective hydrogenation method with retention of the O-benzyl protective group using Pd/C-ethylenediamine complex [Pd/C(en)] as a catalyst. Hence, we began to develop benzylic site selective H-D exchange reaction of the O-benzyl protective group using Pd/C(en)-D2O-H2 system. The present method is easily applicable to synthesis of various O-benzyl protected compds. bearing deuterated benzylic site in excellent deuterium efficiencies and chemical yields.

L17 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:768374 CAPLUS
DOCUMENT NUMBER: 145:219618
TITLE: Method for producing deuterium gas and catalytic deuteration method using deuterium gas obtained thereby
INVENTOR(S): Hirota, Kosaku; Sajiki, Hironao; Ito, Nobuhiro
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 34pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006080202	A1	20060803	WO 2006-JP300446	20060116

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,

KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

CA 2596233	A1	20060803	CA 2006-2596233	20060116
EP 1882672	A1	20080130	EP 2006-711727	20060116
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 101111454	A	20080123	CN 2006-80003426	20070727
KR 2007112138	A	20071122	KR 2007-7018973	20070820
US 20080145303	A1	20080619	US 2007-883193	20070830
PRIORITY APPLN. INFO.:			JP 2005-21754 A	20050128
			WO 2006-JP300446 W	20060116

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The invention provides (1) a method for producing deuterium gas characterized by bringing a deuterated solvent into contact with H gas under pressure in the coexistence of a catalyst selected from a Pd catalyst, a Pt catalyst, a Ni catalyst, a Co catalyst, an Ir catalyst, and a Rh catalyst, and a Ru catalyst in which a ligand is not coordinated; and (2) a catalytic deuteration method of a compound with a reductive functional group characterized by bringing deuterium gas obtained in the (1) into contact with the compound with a reductive functional group in the coexistence of a catalytic reduction catalyst.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2006:689620 CAPLUS
DOCUMENT NUMBER: 146:421688
TITLE: Synergistic effect of a palladium-on-carbon/platinum-on-carbon mixed catalyst in hydrogen/deuterium exchange reactions of alkyl-substituted aromatic compounds
AUTHOR(S): Ito, Nobuhiro; Watahiki, Tsutomu; Maesawa, Tsuneaki; Maegawa, Tomohiro; Sajiki, Hironao
CORPORATE SOURCE: Chemical Products Research Laboratories, Wako Pure Chemical Industries, Ltd., 1633 Matoba, Kawagoe, 350-1101, Japan
SOURCE: Advanced Synthesis & Catalysis (2006), 348(9), 1025-1028
CODEN: ASCAF7; ISSN: 1615-4150
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:421688

AB A synergistic effect in the H-D exchange reaction of alkyl-substituted aromatic compds. using the Pd/C-Pt/C-D2O-H2 system was discovered. This system would lead to fully H-D exchange results even on the sterically hindered sites which were only low-deuterium incorporated by Pd/C or Pt/C independently. Since the reaction was general for a variety of aromatic compds., it could be applied to the deuteration of dianiline derivs. as raw materials for polyimides.

OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 26 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:206614 CAPLUS
DOCUMENT NUMBER: 144:330812
TITLE: Development of new functions of heterogeneous palladium catalysts
AUTHOR(S): Sajiki, Hironao
CORPORATE SOURCE: Gifu Pharmaceutical University, Japan
SOURCE: Farumashia (2006), 42(2), 140-144
CODEN: FARUAW; ISSN: 0014-8601
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review on the development of the Pd/C-ethylenediamine complex catalyst and the Pd-fibroin catalyst, the development of Pd/C-catalyzed deuteration reaction, and Pd/C-catalyzed selective alkylation of amines using nitriles as alkylating agents.
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L17 ANSWER 27 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:108991 CAPLUS
DOCUMENT NUMBER: 144:292970
TITLE: Synthesis of base-selectively deuterium -labeled nucleosides by the pd/C-catalyzed H-D exchange reaction in deuterium oxide
AUTHOR(S): Esaki, Hiroyoshi; Aoki, Fumiyo; Maegawa, Tomohiro; Hirota, Kosaku; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Mitahora-higashi, Gifu, 502-8585, Japan
SOURCE: Heterocycles (2005), 66, 361-369
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:292970
AB The D2 gas-free and base-selective H-D exchange reaction of nucleosides was developed. It discloses a convenient route to the post-synthetic incorporation of deuteriums into the base moiety of nucleic acids with high deuterium efficiency.
OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 28 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:11292 CAPLUS
DOCUMENT NUMBER: 144:108001
TITLE: Method for deuteration of haloacrylic acid or its salt
INVENTOR(S): Maesawa, Tsuneaki; Ito, Nobuhiro; Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006001236	A1	20060105	WO 2005-JP11228	20050620

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

CA 2572056	A1	20060105	CA 2005-2572056	20050620
EP 1760064	A1	20070307	EP 2005-750962	20050620
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 1972890	A	20070530	CN 2005-80020609	20050620
US 20080071107	A1	20080320	US 2006-630075	20061219
KR 2007039529	A	20070412	KR 2007-7000211	20070104
PRIORITY APPLN. INFO.:			JP 2004-187152 A	20040625
			WO 2005-JP11228 W	20050620

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 144:108001; MARPAT 144:108001

AB The title method is characterized in that a compound represented by general formula [R1R2C:C(X)CO2]nR3 (wherein R1 and R2 each independently represent a light hydrogen atom or a heavy hydrogen atom, and at least one of R1 and R2 represents a light hydrogen atom; R3 represents a light hydrogen atom, a heavy hydrogen atom, an alkali metal atom, or an alkaline earth metal atom; X represents a halogen atom; and n represents 1 or 2) is reacted with a heavy hydrogen source in the presence of a catalyst selected from palladium catalyst, platinum catalyst, rhodium catalyst, ruthenium catalyst, nickel catalyst, and cobalt catalyst which are not subjected to activation treatment. Thus, a mixture of sodium 2-chloroacrylate and unactivated Rh/C in D2O was heated under nitrogen at 160°C for 24 h to give the deuterated product with 95% deuteration rate.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 29 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:1262523 CAPLUS
DOCUMENT NUMBER: 144:23540
TITLE: High refractive index deuterated polyimides and derivatives with good transparency, low moisture absorption and optical transmission losses, heat resistance, and adhesion
INVENTOR(S): Muto, Kazushige; Maesawa, Tsuneaki; Ito, Nobuhiro; Watahiki, Tsutomu; Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

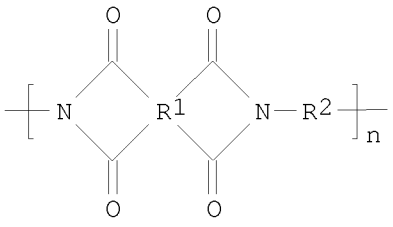
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005113646	A1	20051201	WO 2005-JP8984	20050517
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

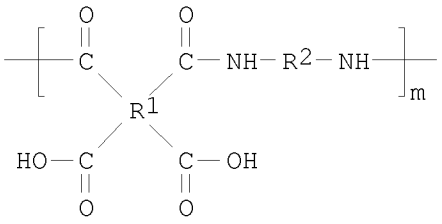
CA 2567487	A1	20051201	CA 2005-2567487		20050517
EP 1754739	A1	20070221	EP 2005-741155		20050517
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
CN 1957019	A	20070502	CN 2005-80016299		20050517
JP 4449979	B2	20100414	JP 2006-513695		20050517
US 20080045724	A1	20080221	US 2006-569463		20061121
PRIORITY APPLN. INFO.:			JP 2004-151209	A	20040521
			WO 2005-JP8984	W	20050517

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

GI

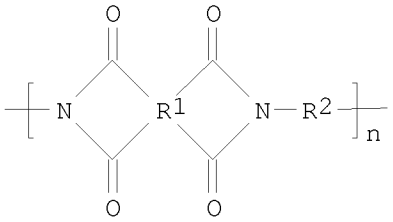


I



II

GI



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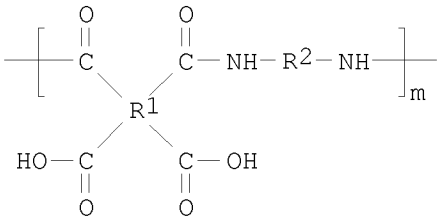

II

AB Title polyimides useful as the raw material of polymers for optical waveguides have a deuterated structure I obtained by ring-closure reaction of deuterated polyamic acid II produced by reacting an optionally deuterated acid anhydride with a deuterated diamine, wherein R1 = tetravalent alicyclic or aromatic hydrocarbon group which may be deuterated; and R2 = deuterated divalent aromatic hydrocarbon group; and m, n = ≥1 integer. Thus, 20 g o-tolidine and 680 mL D2O were reacted in the presence of 2 g 10% Pd/C and 4 g 5% Pt/C at 80° for 24 h, 10 mmol of which was polymerized with 10 mmol pyromellitic anhydride at 25° for 2 h to give a deuterated polyamic acid with eight average mol. weight 168,000, 10% solution of the resulting copolymer was cast onto a glass, heated at 200° for 1 h and 300° for 1 h to give a deuterated polyimide.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 30 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:1184914 CAPLUS
DOCUMENT NUMBER: 144:87749
TITLE: Facile and Efficient Postsynthetic Tritium Labeling Method Catalyzed by Pd/C in HTO
AUTHOR(S): Maegawa, Tomohiro; Hirota, Kosaku; Tatematsu, Kenjiro; Mori, Yukio; Sajiki, Hironao
CORPORATE SOURCE: Laboratory of Medicinal Chemistry and Laboratory of Radiochemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Journal of Organic Chemistry (2005), 70(25), 10581-10583
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:87749

AB A facile and efficient tritium labeling method using a Pd/C-HTO-H2 system is reported. This method can provide multitritium-labeled compds. in highly diluted HTO under T2 gas-free conditions, and is environmentally benign since purification by silica gel column chromatog. is not necessary, which causes a large quantity of radioactive waste such as silica gel and eluent.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 31 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:980492 CAPLUS
DOCUMENT NUMBER: 143:439970
TITLE: Aromatic ring favorable and efficient H-D exchange reaction catalyzed by Pt/C
AUTHOR(S): Sajiki, Hironao; Ito, Nobuhiro; Esaki, Hiroyoshi; Maesawa, Tsuneaki; Maegawa, Tomohiro; Hirota, Kosaku
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Tetrahedron Letters (2005), 46(41), 6995-6998
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:439970
AB An effective and applicable Pt/C-catalyzed deuteration method of aromatic rings using D2O as a deuterium source under hydrogen atmospheric was developed. Five percent Pt/C would lead to quite effective H-D exchange results on the aromatic ring systems. The reaction is general for a variety of aromatic compds. including biol. active compds.
OS.CITING REF COUNT: 27 THERE ARE 27 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 32 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:739644 CAPLUS
TITLE: Facile and efficient isotope labeling method for phenylalanine derivatives catalyzed by Pd/C
AUTHOR(S): Maegawa, Tomohiro; Akashi, Akira; Esaki, Hiroyoshi; Aoki, Fumiyo; Sajiki, Hironao; Hirota, Kosaku; Tatematsu, Kenjiro; Mori, Yukio
CORPORATE SOURCE: Department of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005 (2005), MEDI-130. American Chemical Society: Washington, D. C.
CODEN: 69HFCL
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)
LANGUAGE: English
AB Amino acids labeled with deuterium or tritium are applied to wide range of studies such as metabolism, structural anal. and dynamics of peptides and proteins. Although a number of methods for the preparation of deuterium-labeled amino acids are reported, appropriately labeled amino acids are still extremely expensive and rarely com. available. Recently, we found that efficient and regioselective deuterium incorporation into the benzylic position of L-phenylalanine derivs. was achieved by thermal control using heterogeneous Pd/C-H2-D2O system. And also, further deuterium incorporation at the a-position was observed at higher temperature We also developed simple and facile tritium labeling methods of phenylalanine derivs. Tritium labeled compds. are used for a tracer to detect a trace amount of wide range of compds. Our Pd/C-H2-T2O system is also applicable to a tritium incorporation method to phenylalanine derivs. and the simple and easy workup procedure can provide a safe and environmentally benign tritium labeling method without chromatog. purification

L17 ANSWER 33 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:739643 CAPLUS
TITLE: Efficient deuterium labeling method of biologically active compounds
AUTHOR(S): Esaki, Hiroyoshi; Aoki, Fumiyo; Maegawa, Tomohiro; Sajiki, Hironao; Hirota, Kosaku
CORPORATE SOURCE: Department of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005 (2005), MEDI-129. American Chemical Society: Washington, D. C.
CODEN: 69HFCL
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)
LANGUAGE: English

AB There is an increasing demand for the synthesis of deuterium -labeled compds. used in studies a better understanding of the drug metabolism and of higher-order structure of biomols., and so on. While the various procedures toward deuterium-labeled compds. have been reported, post-synthetic deuterium exchange reaction of the unlabeled compds. by a catalytic method is prominent for its applicability. We have shown that hydrogen atoms on benzylic carbons are effectively exchange into deuterium atoms using Pd/C in the presence of a catalytic amount of hydrogen gas in D2O at room temperature Furthermore, the application of heat could promote the catalyst activity of the Pd/C-H2-D2O system and lead to a H-D exchange reaction even on non-activated carbons. Multi-deuterated products using a wide range of unlabeled starting materials including biol. active compds. such as pharmaceuticals and nucleosides can be easily prepared by application of these systems.

L17 ANSWER 34 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:696848 CAPLUS
DOCUMENT NUMBER: 143:172769
TITLE: Method of deuteration of aromatic ring and/or heterocycle compounds using mixed metal catalyst
INVENTOR(S): Ito, Nobuhiro; Maesawa, Tsuneaki; Muto, Kazushige; Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005070853	A1	20050804	WO 2004-JP19049	20041221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2553376	A1	20050804	CA 2004-2553376	20041221
EP 1707548	A1	20061004	EP 2004-807406	20041221

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

CN 1906143	A	20070131	CN 2004-80040874		20041221
US 20080234488	A1	20080925	US 2006-585629		20060711
KR 2006129284	A	20061215	KR 2006-7014741		20060721
PRIORITY APPLN. INFO.:			JP 2004-16075	A	20040123
			WO 2004-JP19049	W	20041221

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A method of deuteration in which a compound with aromatic ring and/or heterocycle having an enhanced deuteration ratio can be obtained. There is provided a method of deuterating a compound with aromatic ring and/or heterocycle, characterized in that a compound with aromatic ring and/or heterocycle is reacted with a deuterium source in the presence of an activated mixed catalyst composed of at least two members selected from among a palladium catalyst, a platinum catalyst, a rhodium catalyst, an iridium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst. Thus, 500 mg nicotinic acid, 50 mg Pd/C (5 mg Pd), and 100 mg Pt/C (5 mg Pt) were suspended in 17 mL D2O, sealed, purged with H, and heated at 180° for .apprx.24 h to give deuterated nicotinic acid with 99% deuteration at 2, 5, and 6 positions and 48% deuteration at 4 position vs. 98% deuteration at 2 and 5 positions, 99% deuteration at 6 position, and 10% deuteration at 4 position when Pd/C was used alone.

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 35 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:517945 CAPLUS

DOCUMENT NUMBER: 143:173073

TITLE: Palladium-catalyzed base-selective H-D exchange reaction of nucleosides in deuterium oxide

AUTHOR(S): Sajiki, Hironao; Esaki, Hiroyoshi; Aoki, Fumiyo; Maegawa, Tomohiro; Hirota, Kosaku

CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan

SOURCE: Synlett (2005), (9), 1385-1388
CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:173073

AB We have developed an efficient and extensive deuterium incorporation method using a heterogeneous Pd/C-D2O-H2 system into the base moiety of nucleosides. The results presented here provide a deuterium gas-free, totally catalytic, and post-synthetic deuterium labeling method in D2O media.

OS.CITING REF COUNT: 25 THERE ARE 25 CAPLUS RECORDS THAT CITE THIS RECORD (25 CITINGS)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 36 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:308293 CAPLUS

DOCUMENT NUMBER: 143:7955

TITLE: Efficient and selective deuteration of phenylalanine derivatives catalyzed by Pd/C

AUTHOR(S): Maegawa, Tomohiro; Akashi, Akira; Esaki, Hiroyoshi; Aoki, Fumiyo; Sajiki, Hironao; Hirota, Kosaku

CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Synlett (2005), (5), 845-847
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:7955
AB A facile and efficient deuteration method of phenylalanine derivs. using a Pd/C-H2-D2O system has been developed. Selective deuteration at the β-position of phenylalanine derivs. occurred using Pd/C as a catalyst with high deuterium efficiency without racemization at 110 °C. Also, the α-position was deuterated at higher temperature
OS.CITING REF COUNT: 27 THERE ARE 27 CAPLUS RECORDS THAT CITE THIS RECORD (28 CITINGS)
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 37 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2004:711257 CAPLUS
DOCUMENT NUMBER: 141:379678
TITLE: Complete Replacement of H2 by D2 via Pd/C-Catalyzed H/D Exchange Reaction
AUTHOR(S): Sajiki, Hironao; Kurita, Takanori; Esaki, Hiroyoshi; Aoki, Fumiyo; Maegawa, Tomohiro; Hirota, Kosaku
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Organic Letters (2004), 6(20), 3521-3523
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:379678
AB A general and in situ D2 gas generation method using 10% Pd/C-catalyzed H2-D2 exchange reaction in a H2-D2O system has been developed. H2 gas sealed in a reaction flask was efficiently converted into nearly pure D2 gas, which can be used for the reductive deuteration of substrates possessing reducible functionalities within the mol.
OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 38 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2004:589514 CAPLUS
DOCUMENT NUMBER: 141:139883
TITLE: Method of catalytic deuteration of carbonyl compounds or secondary alcohols by heavy water
INVENTOR(S): Ito, Nobuhiro; Maesawa, Tsuneaki; Muto, Kazushige; Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2004060831 A1 20040722 WO 2003-JP14182 20031107
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
CA 2511885 A1 20040722 CA 2003-2511885 20031107
AU 2003277596 A1 20040729 AU 2003-277596 20031107
EP 1577280 A1 20050921 EP 2003-814536 20031107
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
CN 1732135 A 20060208 CN 2003-80107483 20031107
CN 100384792 C 20080430
JP 4396522 B2 20100113 JP 2004-564469 20031107
US 20060116535 A1 20060601 US 2005-539188 20050616
IN 2005KN01449 A 20070720 IN 2005-KN1449 20050726
PRIORITY APPLN. INFO.: JP 2002-378932 A 20021227
WO 2003-JP14182 W 20031107
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 141:139883; MARPAT 141:139883
AB Described is a method of deuterating a carbonyl or secondary alc. compound represented by the general formula R1-X-R2 (I) (wherein R1 = alkyl optionally possessing a CH:CH or C.tplbond.C bond, aralkyl ; R2 = alkyl optionally possessing a CH:CH or C.tplbond.C bond, aryl, aralkyl, alkoxy, aryloxy, hydroxy; X carbonyl, hydroxymethylene), which comprises reacting the compound represented by the general formula I with a deuterium source, in particular D2O, in the presence of a catalyst selected among activated palladium, platinum, rhodium, ruthenium, nickel, and cobalt catalysts. By the method, deuteration, which has been conducted under severe conditions, can be conducted under neutral conditions. Even when the compound contains an unsatd. bond, it can be deuterated without reducing the unsatd. bond. Not only hydrogens near the carbonyl or hydroxymethylene group but also those remotely situated from these groups are selectively deuterated without deuterating the carbon-carbon double or triple bonds. Thus, 500 mg tricyclo[5.2.1.02'6]decan-8-ol and 100 mg Pd-C were suspended in 17 mL D2O, purged with H, and heated at 180° for 24 h in an oil bath to give tricyclo[5.2.1.02'6]decan-8-ol deuterated by 96% at 8-position and 88% at other positions.
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2004:453150 CAPLUS
DOCUMENT NUMBER: 141:23545
TITLE: Method for deuteration or tritiation of heterocyclic compounds
INVENTOR(S): Ito, Nobuhiro; Maesawa, Tsuneaki; Muto, Kazushige; Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046066	A1	20040603	WO 2003-JP14181	20031107
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2506010	A1	20040603	CA 2003-2506010	20031107
AU 2003277595	A1	20040615	AU 2003-277595	20031107
EP 1561741	A1	20050810	EP 2003-811499	20031107
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1714060	A	20051228	CN 2003-80103924	20031107
JP 4525349	B2	20100818	JP 2004-553148	20031107
US 20060025596	A1	20060202	US 2005-534344	20050509
US 7517990	B2	20090414		
IN 2005KN01145	A	20061110	IN 2005-KN1145	20050615

PRIORITY APPLN. INFO.:		JP 2002-331594	A	20021115
		WO 2003-JP14181	W	20031107

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A method for deuteration or tritiation of a heterocyclic ring comprises allowing a heterocyclic compound to be present under a sealing and refluxing condition in a deuterated or tritiated solvent (e.g., D2O) in the presence of an activated catalyst selected from among a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst. The method allows a deuteration or tritiation temperature to be kept at a temperature higher than the boiling temperature of the solvent, which results in the replacement of a hydrogen atom in a heterocyclic ring of a heterocyclic compound with very good efficiency. Further, the method can be widely used for the deuteration or tritiation of various types of heterocyclic compds. in a com. process.

OS.CITING REF COUNT:	3	THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
REFERENCE COUNT:	6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 40 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER:	2004:239925 CAPLUS
DOCUMENT NUMBER:	140:406428
TITLE:	Efficient C-H/C-D Exchange Reaction on the Alkyl Side Chain of Aromatic Compounds Using Heterogeneous Pd/C in D2O
AUTHOR(S):	Sajiki, Hironao; Aoki, Fumiyo; Esaki, Hiroyoshi; Maegawa, Tomohiro; Hirota, Kosaku
CORPORATE SOURCE:	Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE:	Organic Letters (2004), 6(9), 1485-1487 CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 140:406428

AB An efficient and extensive deuterium incorporation using

heterogeneous Pd/C-D2O-H2 system into many different types of unactivated C-H bond positions was developed. The present method provides a deuterium gas-free, totally catalytic, and post-synthetic deuterium labeling method in D2O media.

OS.CITING REF COUNT: 40 THERE ARE 40 CAPLUS RECORDS THAT CITE THIS RECORD (40 CITINGS)

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 41 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2004:101109 CAPLUS

DOCUMENT NUMBER: 140:163571

TITLE: Process for preparation of deuterated aromatic compounds

INVENTOR(S): Ito, Nobuhiro; Maesawa, Tsuneaki; Muto, Kazushige; Hirota, Kosaku; Sajiki, Hironao

PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004011400	A1	20040205	WO 2003-JP8783	20030710
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2493773	A1	20040205	CA 2003-2493773	20030710
AU 2003248267	A1	20040216	AU 2003-248267	20030710
EP 1535889	A1	20050601	EP 2003-771263	20030710
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1675145	A	20050928	CN 2003-818820	20030710
CN 1296331	C	20070124		
JP 4475119	B2	20100609	JP 2004-524108	20030710
US 20070255076	A1	20071101	US 2007-521531	20070222
PRIORITY APPLN. INFO.:			JP 2002-219005 A	20020726
			WO 2003-JP8783 W	20030710

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB This invention pertains to a method for deuterating a compound having an aromatic ring in the presence of an activated catalyst. For example, phenol was treated with D2O in the presence of Pt/C to give C6D5OH in 98% deuterating rate. This invention provides a method to make deuterated aromatic compds. in mild conditions.

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 42 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2003:991461 CAPLUS

DOCUMENT NUMBER: 140:41620

TITLE: Process for deuteration of inert methylene
INVENTOR(S): Hirota, Kosaku; Sajiki, Hironao
PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003104166	A1	20031218	WO 2002-JP11785	20021112
W: JP, US				
JP 4239972	B2	20090318	JP 2004-511236	20021112
US 20050177015	A1	20050811	US 2004-516638	20041202
US 7126023	B2	20061024		

PRIORITY APPLN. INFO.: JP 2002-166224 A 20020606
WO 2002-JP11785 W 20021112
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 140:41620
AB The invention relates to a process for deuteration of inert alkanes with activated palladium-carbon, specifically, a process for deuterating a compound having either a Me group or an alkylene group having two or more carbon atoms in a state directly bonded to an optionally substituted aromatic ring through replacement of one or more hydrogen atoms of the Me group or one or more of the benzylic and other hydrogen atoms of the alkylene group by deuterium, characterized in that the above compound is subjected to refluxing in a closed system in the presence of activated palladium-carbon in a state dissolved in a deuterated solvent.
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 43 OF 44 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2003:677627 CAPLUS
DOCUMENT NUMBER: 140:321640
TITLE: Palladium-catalyzed H-D exchange into nucleic acids in deuterium oxide
AUTHOR(S): Sajiki, Hironao; Aoki, Fumiyo; Esaki, Hiroyoshi; Maegawa, Tomohiro; Hirota, Kosaku
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, Gifu Pharmaceutical University, Gifu, 502-8585, Japan
SOURCE: Nucleic Acids Research Supplement (2003), 3(3rd International Symposium on Nucleic Acids Chemistry [and] 30th Symposium on Nucleic Acids Chemistry in Japan, 2003), 55-56
CODEN: NARSCE
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:321640
AB We have developed an efficient and extensive deuterium incorporation method using a heterogeneous Pd/C-D2O-H2 system into the base moiety of nucleic acids. The results presented here provide a deuterium gas-free, totally catalytic and post-synthetic deuterium labeling method in D2O media.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L17  ANSWER 44 OF 44  CAPLUS  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:        2002:526646  CAPLUS
DOCUMENT NUMBER:         137:384626
TITLE:                   Pd/C-H2-catalyzed deuterium exchange
                         reaction of the benzylic site in D2O
AUTHOR(S):               Sajiki, Hironao; Hattori, Kazuyuki; Aoki,
                         Fumiyo; Yasunaga, Kanoko; Hirota, Kosaku
CORPORATE SOURCE:        Laboratory of Medicinal Chemistry, Gifu Pharmaceutical
                         University, Gifu, 502-8585, Japan
SOURCE:                  Synlett (2002), (7), 1149-1151
                         CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER:               Georg Thieme Verlag
DOCUMENT TYPE:           Journal
LANGUAGE:                English
OTHER SOURCE(S):         CASREACT 137:384626
AB   Pd/C is found to catalyze efficient and chemoselective exchange of
     deuterium derived from D2O with hydrogens on a benzylic carbon in
     the presence of a catalytic amount of hydrogen at room temperature
OS.CITING REF COUNT:     33    THERE ARE 33 CAPLUS RECORDS THAT CITE THIS
                               RECORD (33 CITINGS)
REFERENCE COUNT:         32    THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT


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     (FILE 'HOME' ENTERED AT 17:03:58 ON 07 JAN 2011)

     FILE 'REGISTRY' ENTERED AT 17:04:15 ON 07 JAN 2011
L1              STRUCTURE UPLOADED
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L2           50 SEA FILE=REGISTRY SSS SAM L1
L3              STRUCTURE UPLOADED
                D
L4            2 SEA FILE=REGISTRY SSS SAM L3
                D SCAN
L5           55 SEA FILE=REGISTRY SSS FUL L3
                D L5 1-55
                E (PALLADIUM AND CARBON)/CN
                E (PALLADIUM AND CHARCOAL)/CN
                E (PALLADIUM  CHARCOAL)/CN

     FILE 'CAPLUS' ENTERED AT 17:22:30 ON 07 JAN 2011
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                SEL RN
L7       995744 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  (7440-16-6/BI OR
                108-93-0/BI OR 13380-89-7/BI OR 63870-91-7/BI OR 725242-29-5/BI
                 OR 7440-05-3/BI OR 7440-06-4/BI OR 7440-18-8/BI OR 79-31-2/BI
                OR 106-35-4/BI OR 108-94-1/BI OR 110-43-0/BI OR 123-19-3/BI OR
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                5536-61-8/BI OR 55935-44-9/BI OR 589-55-9/BI OR 64118-21-4/BI
                OR 666-52-4/BI OR 67-64-1/BI OR 725242-18-2/BI OR 725242-19-3/B
                I OR 725242-21-7/BI OR 725242-22-8/BI OR 725242-23-9/BI OR
                725242-24-0/BI OR 725242-25-1/BI OR 725242-26-2/BI OR 725242-27
                -3/BI OR 725242-28-4/BI OR 725242-30-8/BI OR 725242-31-9/BI OR
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                OR 78-93-3/BI OR 79-41-4/BI OR 91468-78-9/BI)

     FILE 'REGISTRY' ENTERED AT 17:22:56 ON 07 JAN 2011
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                 OR 7440-05-3/BI OR 7440-06-4/BI OR 7440-18-8/BI OR 79-31-2/BI
                OR 106-35-4/BI OR 108-94-1/BI OR 110-43-0/BI OR 123-19-3/BI OR
                127-09-3/BI OR 13380-94-4/BI OR 14044-94-1/BI OR 18153-61-2/BI
                OR 21273-02-9/BI OR 3385-61-3/BI OR 350820-09-6/BI OR 497-38-1/
                BI OR 51209-49-5/BI OR 53481-06-4/BI OR 543-49-7/BI OR
                5536-61-8/BI OR 55935-44-9/BI OR 589-55-9/BI OR 64118-21-4/BI
                OR 666-52-4/BI OR 67-64-1/BI OR 725242-18-2/BI OR 725242-19-3/B
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                725242-24-0/BI OR 725242-25-1/BI OR 725242-26-2/BI OR 725242-27
                -3/BI OR 725242-28-4/BI OR 725242-30-8/BI OR 725242-31-9/BI OR
                725242-32-0/BI OR 7440-02-0/BI OR 7440-48-4/BI OR 7789-20-0/BI
                OR 78-93-3/BI OR 79-41-4/BI OR 91468-78-9/BI)

     FILE 'CAPLUS' ENTERED AT 17:23:05 ON 07 JAN 2011
L9            1 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L6 AND L8
                D L9 IBIB GI ABS HITSTR

     FILE 'REGISTRY' ENTERED AT 17:23:47 ON 07 JAN 2011
                D L8 1-49
                E 21273-02-9/RN
L10           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  21273-02-9/RN

     FILE 'CAPLUS' ENTERED AT 17:26:14 ON 07 JAN 2011
L11          34 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L10
                D L11 IBIB GI ABS HITSTR 1-34

     FILE 'CAPLUS' ENTERED AT 18:36:29 ON 07 JAN 2011
L12         148 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L5

     FILE 'REGISTRY' ENTERED AT 18:38:34 ON 07 JAN 2011
                E 42913-50-8/RN
L13           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  42913-50-8/RN

     FILE 'CAPLUS' ENTERED AT 18:38:42 ON 07 JAN 2011
L14           1 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L13
                D L14 IBIB GI ABS HITSTR
L15           1 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  HIRONAO S?/AU
                D L15 IBIB
                D L6 IBIB GI ABS
L16         233 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  SAJIKI H?/AU
L17          44 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L16 AND (DEUTERIUM OR
                DEUTERAT?)
                D L17 IBIB GI ABS 1-44
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                 164.39     920.00

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                 -40.02     -70.47

 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 19:30:31 ON 07 JAN 2011
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